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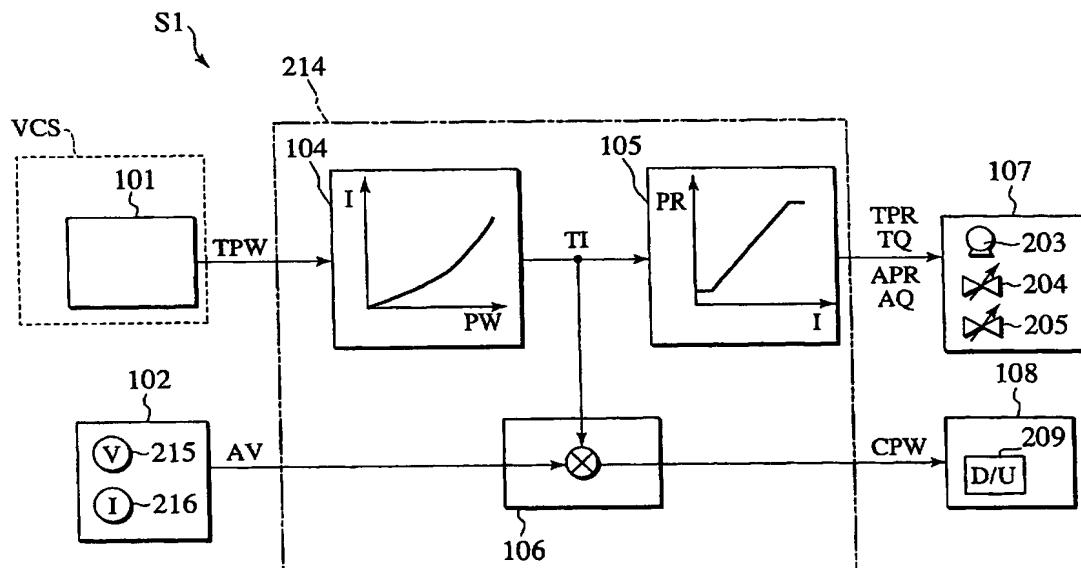
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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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## (54) Title: POWER GENERATION CONTROL SYSTEM FOR FUEL CELL



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(57) Abstract: A power generation control system which includes: a fuel cell (201); a target power provider (101) for the fuel cell (201); a operation status monitoring system (102) for monitoring output power from the fuel cell (201), in which the detected output power includes actual output voltage (AV) of the fuel cell (201); and a controller (214). The controller (214) includes: a target current computing unit (104) which calculates a target current (TI) from the target power (TPW) given by the target power provider (101), based on PW-I characteristic obtained from I-V characteristic of the fuel cell (201); and a command output power computing unit (106) which calculates a command output power (CPW) of the fuel cell (201) based on the target current (TI) and the actual output voltage (AV).

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/JP 03/16093

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H01M8/04 B60L11/18

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 209 023 A (TOYOTA MOTOR CO LTD) 29 May 2002 (2002-05-29) paragraphs '0018!, '0019! claims 18-21 -----	1-9
X	US 2002/051899 A1 (DOAN TIEN M ET AL) 2 May 2002 (2002-05-02) paragraphs '0027! - '0030! paragraphs '0054! - '0062! -----	1,9
X	US 6 428 917 B1 (LACY ROBERT A ET AL) 6 August 2002 (2002-08-06) column 4, lines 20-39 column 5, lines 7-16 -----	1,9
A	----- -/-	2-6

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 0091, no. 50 (E-324), 25 June 1985 (1985-06-25) & JP 60 030062 A (TOSHIBA KK), 15 February 1985 (1985-02-15) abstract -----	1,9

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 1209023	A	29-05-2002	JP EP US US	2002231295 A 1209023 A2 2004214061 A1 2002064697 A1		16-08-2002 29-05-2002 28-10-2004 30-05-2002
US 2002051899	A1	02-05-2002	US CA EP JP	2004151955 A1 2309025 A1 1069636 A2 2001043880 A		05-08-2004 06-01-2001 17-01-2001 16-02-2001
US 6428917	B1	06-08-2002	DE JP	10065446 A1 2001210346 A		12-07-2001 03-08-2001
JP 60030062	A	15-02-1985	JP JP	1985422 C 7015653 B		25-10-1995 22-02-1995